To the Graduate Council:

I am submitting herewith a thesis written by David Hefley entitled "The Apparent Simplicity of Minimalism." I have examined the final paper copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Architecture, with a major in Architecture.

Adam Drisin, Major Professor

We have read this thesis and recommend its acceptance:

Jon Coddington, Professor

L. David Fox, Professor

Accepted for the Council:

Vice Provost and
Dean of Graduate Studies

Thesis
2002
.H445

The Apparent Simplicity of Minimalism

A Thesis
Presented for the
Master of Architecture
Degree
The University of Tennessee, Knoxville

David Ogden Hefley
August 2002

Dedication

A mi madre con mucho amor.

Acknowledgments

I would like to acknowledge my thesis committee, Jon Coddington, Adam Drisin, and David Fox, for putting up with me during my thesis journey. Also, I would like to acknowledge Matthias Altwicker for always leading by example.

Finally, I would like to thank my classmates for their refreshing interaction over the preceding three years, both academic and extra-curricular. I am a better person for having known each of these eleven colleagues.

Abstract

The impetus for this design project involves the design methodology of minimalism. Minimalism is a term that is stated ubiquitously within the contemporary architectural context. This thesis asserts that minimalism assembles a subjective feeling through a visual impact, which can be objectively designed.

Minimalism is made through a rigorous study of material detailing and control of the construction process. Minimalism is rational. It is refined, elegant, and while it is seemingly simple and/or austere, it can be understood on multiple levels.

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I. Thesis Statement

Richness and complexity are produced through the apparent simplicity of minimalism. Minimal architecture intends to yield a greater whole through a reduction of the constituent elements.

The vehicle for the thesis involves the development of a private mountain for use as a sacred religious space. The mountain has a subjective feeling of sacredness, and the family who owns the mountain seeks to develop this sacred feeling into an actual church. The church is a simple means for a religious family to hold their religious rites in a private manner. On occasion, the church can be opened to members of the surrounding community for worship.

This thesis displays the following architectural language in its exploration of minimalism-

Muteness
Concentration
Essence
Focus
Simplicity
Order
Hierarchy
Proportion
Restraint
Tactility
Materiality
Reductive
Austerity
Ambiguity

> Donald Judd fought most strongly against having the term Minimalism applied to his work. What had driven him to create his objects was the will to move far away from appearance and representation, and to create objects whose force lies in their concrete presence in a place, developing properties such as scale, the relationship with the immediate surroundings, direct work with materials, reflections, texture- hardly minimal, in other words.
> *Francisco Cerver*

II. Minimalism Background

The term minimum is derived from the Latin adjective *minimus,* meaning *least* or *smallest*.

The term Minimal is defined as *small in amount or degree*.

The term Minimalism is defined as *the use of the fewest and barest essentials or elements, as in the arts, literature, or design*.

The term minimalism became prevalent in the 1960's to the movement of minimal art, which included such artists as Donald Judd, Frank Stella, Sol Lewitt, Richard Serra, and James Turrell. The term began being applied to architecture in the 1980's to describe work that at first glance is reduced to its essential elements, and is typically finely detailed.

III. Thesis Issues

Spatial sequence. The sequence involves the ascent up the mountain to a chapel. This involves circulation primarily by foot, and alternatively via automobile. Various sensory perceptions engage the individual during the procession. Architecturally, one would consider how this path is marked, what material is the path, what views are there from the path? When do the church and cemetery come into view? What else should one encounter along the path, built or non-built?

Built/ Non-built. The site involves dramatic topographies and dense forestation. The manipulation of these can serve as space-defining elements. That which is built must be sensitive to these two issues, reducing the amount of earthwork and tree removal to a minimum. In relation to the procession up the hill, the non-built elements become equally critical when controlling the procession of the individual.

Sacred/ Secular. The beauty of the natural landscape blurs the separation between the sacred and the secular. The separation begins when one crosses the threshold of the gate and moves uphill. Alternatively, one enters sacred space upon leaving the white house and walking into the forest. The chapel program uses the constituent typological elements of the Roman Catholic church- an altar, a sacristy, a crucifix, a baptistry, a confessional, and pews. Thus, how does one place these sacrosanct programmatic requirements into such a site?

IV. Site Background

The town of Saluda, North Carolina, has a year-round population of 500 people. During the summer months, the population doubles to include vacationers who own summer residences in the mountains surrounding the town. The town itself has not been given over to the typical capitalist pursuits that would follow such summer inhabitants. Main Street has changed very little over the life of the town- two general stores, a few restaurants, a city hall, a police station, and various sundry shops. The railroad, responsible for the founding of the city, runs parallel to Main Street to the west. The town is an excellent retreat for the summer vacationer, allowing for quiet rest and rejuvenation.

The thesis site is a small mountain situated approximately one half mile from Main Street, easily visible from many points throughout town. While the mountain is privately owned, many local residents are familiar with the land from walking the trails, enjoying the views, and swimming in the pond at the base of the mountain. A dirt road leading up the mountain begins where the paved city street ends. The road immediately begins its steep climb, winding around the mountain. Although geographically close to the town, one quickly begins to feel isolated in the dense growth of the forest. From the secular world of the town below, the walk is considered the buffer zone leading to the sacred space. In this buffer zone, the walk proceeds through the thick overgrowth of a forest.

Two small vernacular cabins and an outdoor fireplace and seating area are located on the mountain-top. Granite quarried on-site forms the foundations of the cabins, the fireplace, and knee walls. A small patch of trees has been removed from the forest on the western slope, giving a phenomenal view of the mountain ranges

beyond. The land gives rejuvenation to those who visit, mainly because it is the optimal alternative to the city.

The site involves six existing architectural conditions:

- Topography.
- Trees.
- Views.
- Walking trails.
- Driving roads.
- Built Structures.

The mountain functions as a place for worship as well as a place for family gathering. The addition of the church to the site makes a unifying experience for a group of worshippers or a singular experience for an individual.

V. Program

The program consists of three primary elements, the church, the outdoor chapel, and the cemetery.

(1) Church

Narthex: 150 s.f.

Nave: seating for 40 people. 3600 s.f.
Pews: 3 linear feet per person
Holy Water Font, 2' x 2'

Sanctuary. 300 s.f.
1. Altar/ Communion table 3' x 8'
2. Crucifix. Dimension may vary.
3. Pulpit 4' x 5'
4. Lectern 1'-9" x 2' (the lectern may be used as the pulpit)
5. Tabernacle 1'-6" x 1'-6"
6. Communion rail. Height = 2'-4"
7. Sanctuary Lamp

Baptistry. 150 s.f.
1. Baptismal font: 2' x 2'
2. Ambry (Holy Oil Repository) 1'x1', may be free-standing or wall-hung

Confessional. 80 s.f.

Sacristy. 120 s.f.

Equipment required in sacristy:
1. Safe for sacred vessels 1'-6" x 1'-6"
2. Holy Water Dispenser
3. Monstrance (ostensorium)
4. Ciborium
5. Processional Cross (a cross carried by a lay person which leads the procession in the church) height = 7'
6. Candlesticks (6)
7. Altar Cloth. Dimensions should be sufficient to hang over the altar
8. Cruets
9. Ablution Cup
10. Lavabo Dish
11. Chalice
12. Paten

Vestry. 120 s.f.
Space requirement for each vestment: 3'x 8" x 7' (with hanging rod)

Vestments required:

1. Gold-Solemn Mass Set (quantity: 1)
2. Black- Solemn Mass Set (quantity: 1)
3. White- Solemn Mass Set (quantity: 1)
4. Red- Solemn Mass Set (quantity: 1)
5. White Low Mass Vestments (quantity: 1)
6. Black Low Mass Vestments (quantity: 1)
7. Red Low Mass Vestments (quantity: 1)
8. Purple Low Mass Vestments (quantity: 1)
9. Green Low Mass Vestments (quantity: 1)
10. Gold Low Mass Vestments (quantity: 1)
11. Rose Low Mass Vestments (quantity: 1)
12. Red Cope (quantity: 1)
13. White Cope (quantity: 1)
14. Green Cope (quantity: 1)
15. White Humeral Veil (quantity: 3)
16. Albs (quantity: 3)
17. Surplices (quantity: 3)
18. Cassocks (quantity: 3)

Restroom. 40 s.f.

Storage. 60 s.f.

Mechanical and Electrical Room. 80 s.f.

Total for church: 4700 s.f.

(2) Outdoor chapel

Seating for 40 people. 3600 s.f.
Altar/ Communion table 3' x 8'
Pulpit 4' x 5'
Lectern 1'-9" x 2' (the lectern may be used as the pulpit)

(3) Cemetery

Space for fifteen graves (70 s.f. per grave): 1050 s.f.

VI. Precedents

A. Igualada Cemetery

Barcelona, Spain

1985 - 1991

Architect: Enric Miralles

The Igualada Cemetery is monumental through its use of material and massive scale. The project is a constant work in progress; as bodies are interred, the façade changes, one square at a time. The project is sighted over sloping terrain, thus allowing for views to be controlled through sectional shifts within the project. Success within the project is derived through the way in which it engages the landscape. The project seemingly becomes infill within the undulation of the landscape. As constructed, I appreciate its monolithic massing which relates to the solidity and constancy of the program. Figures 1, 2, and 3 show the Igualada Cemetery.

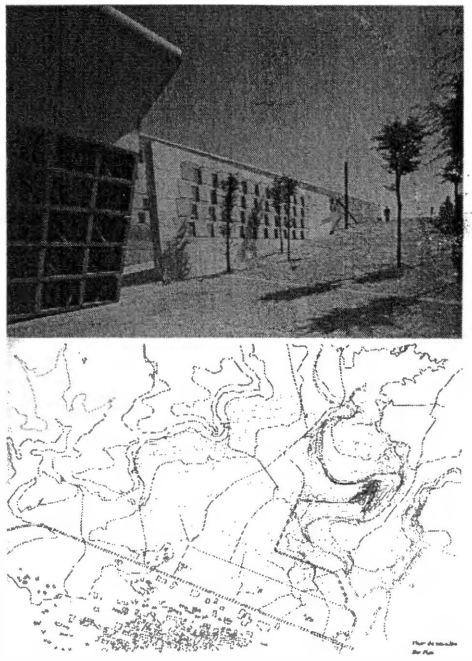


Fig. 1: Exterior view and site plan, Igualada Cemetery
Source: *El Croquis*, Number 30

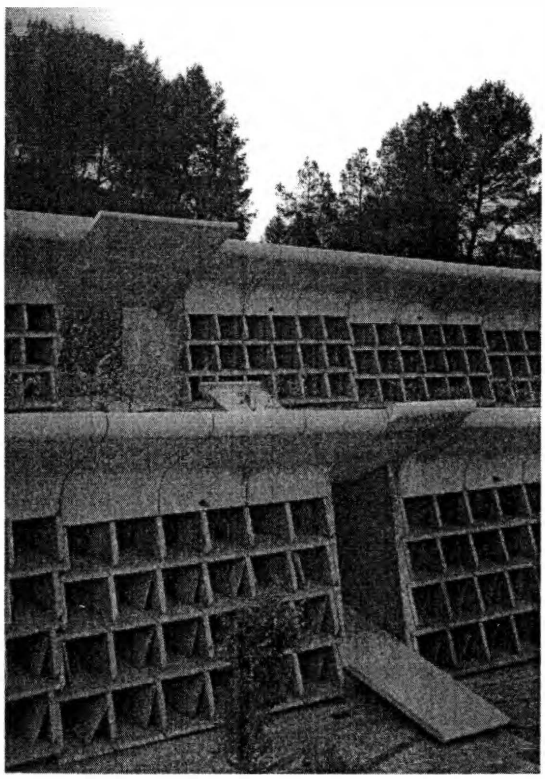


Fig. 2: View of sepulcher,
Igualada Cemetery
Source: *El Croquis*, Number 30

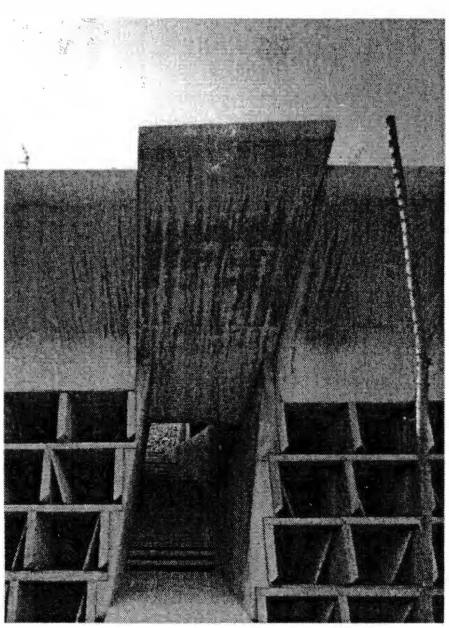


Fig. 3: Detail view of sepulcher.
Igualada Cemetery.
Source: *El Croquis*, Number 30

B. Brion Family Cemetery

San Vito d'Altivole, Italy

1969 - 1978

Architect: Carlo Scarpa

Carlo Scarpa sets up perspectives and hierarchical spaces by locating objects at various points from each other within the site. Thus, the procession, as much as the finale, is equally important as the point of the memorial or the occurrence of the rite. In addition to the spatial planning, Scarpa ruthlessly details every moment of the project. While the project is not considered minimal, it relates to the thesis via program, and it also displays an arrangement of programmatic elements, giving each part a point of significance. Figures 4 and 5 show the Brion Family Cemetery.

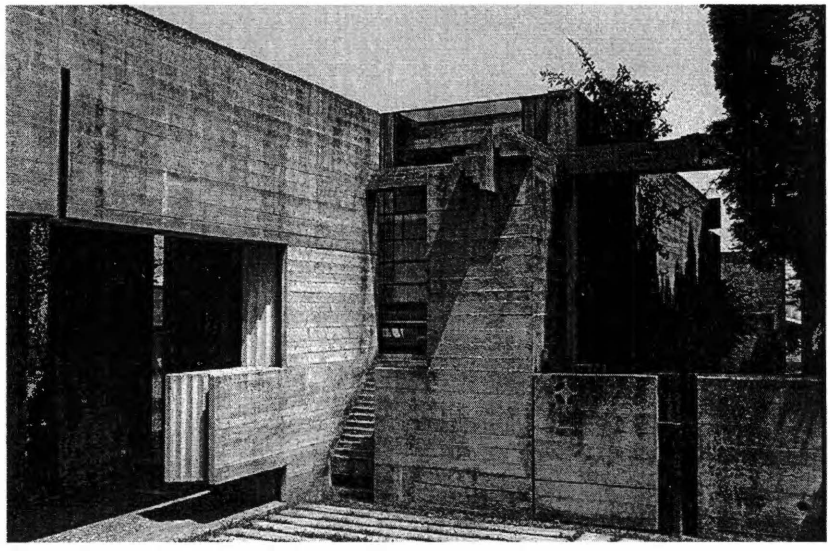


Fig. 4 Exterior view,
Brion Family Cemetery.
Source: http://www.greatbuildings.com

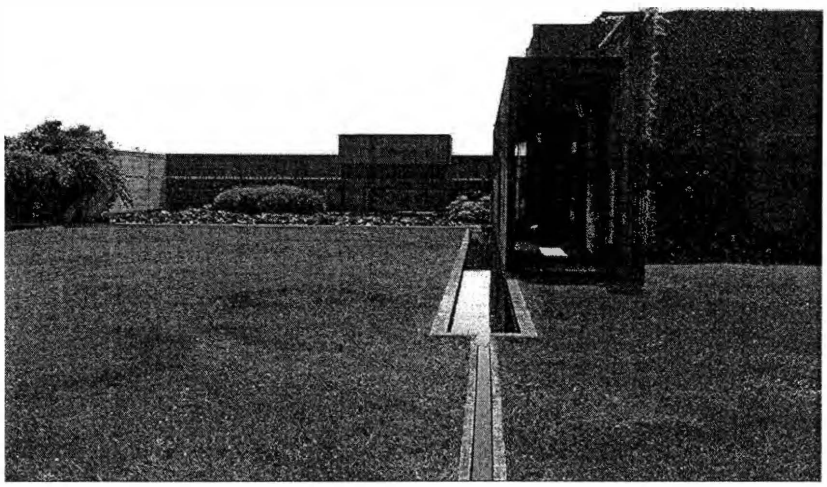


Fig. 5: View of water element,
Brion Family Cemetery.
Source: http://www.greatbuildings.com

C. Notre Dame du haut

Ronchamp, France

1955

Architect: Le Corbusier

This project has influenced me in a number of ways. The process of reaching the church is an experience in itself. As one moves up the hillside, sight lines are alternatively opened and closed. Inside, the architect uses modern constructive means to elicit a very archaic feeling of a church. The interior is dark, excepting moments of brilliant light in the thick porous south wall and the three chapels with their abundant overhead light. Furthermore, the relation of the interior

and the exterior with the processional route allows the building the reach into the landscape, much more than can be expected. The large, seemingly floating concrete roof acts as an overhang to protect the sanctuary of the outdoor worship space. The language of the minimal is spoken in this project. While considered an Expressive Modern building, the feeling of the archaic lends a timeless quality to the building. Figures 6, 7, and 8 show the Notre Dame du Haut.

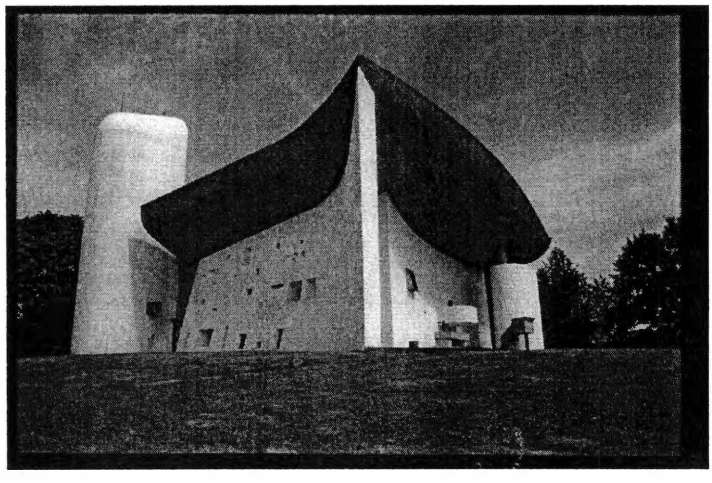


Fig. 6: Exterior view,
Notre Dame du Haut.
Source: Author

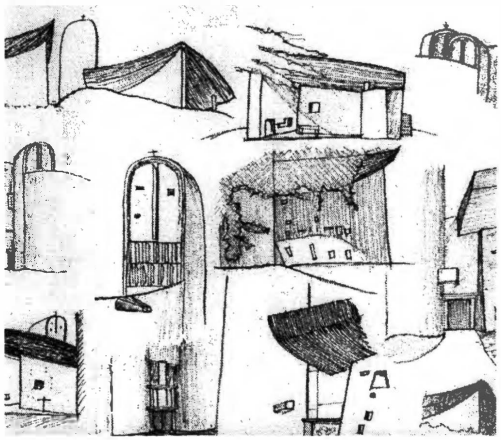


Fig. 7: Field Sketches,
Notre Dame du Haut
Source: Author

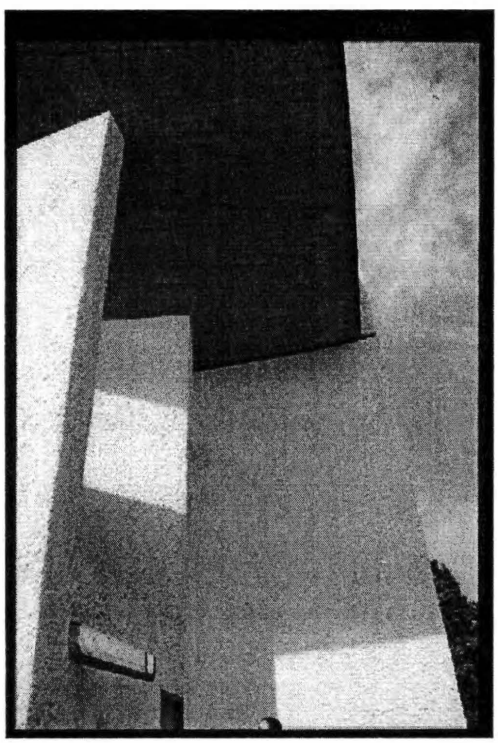


Fig. 8: Detail view,
Notre Dame du Haut
Source: Author

D. Chapel Sogn Benedtg

Sumvitg, Switzerland

1985

Architect: Peter Zumthor

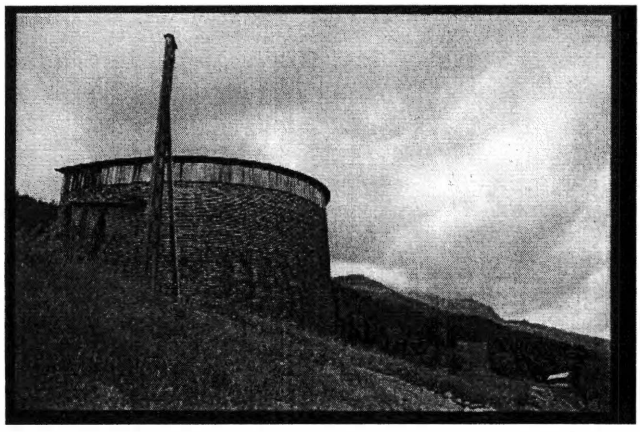


Fig. 9: Exterior view,
Chapel Sogn Benedtg.
Source: Author

The building digs into the slope, yet reaches up. Sometimes the best spaces are those that are under-stated, under-bearing, and quiet. They speak to the senses and not out loud. The only sound required here is that of nuns singing or the fountain trickling outside.

This project is sited on the brow of a steeply sloping mountain in the rural Graubunden region of Switzerland. Through the use of cedar siding, the construct easily blends with the surrounding village buildings, also built of wood. Through its form it commands a presence over its site and context. The building is actually one point along a dirt path which continues up the mountain; thus making the chapel a part of the village. Inside, the form gives a comfortable, forgiving enclosures to its pilgrims. Abundant overhead light keeps the chapel naturally ambient from dawn to dusk. The language of the minimal speaks through this building. Numerous reasons can be counted to make the sobering experience that comes with this building. It is

one in which the full brevity of architecture is understood. Figures 9 – 12 show Chapel Sogn Benedtg.

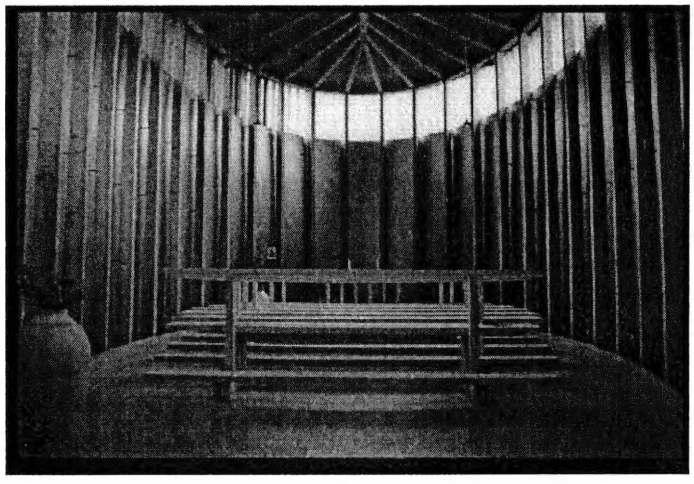


Fig. 10: Interior view,
Chapel Sogn Benedtg.
Source: Author

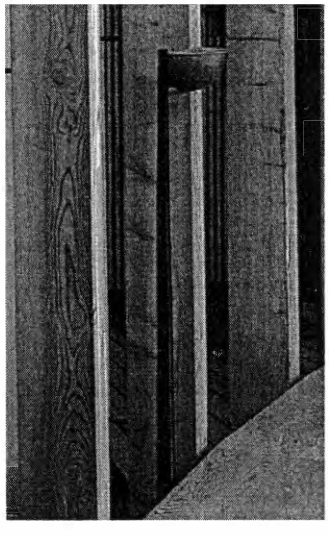


Fig. 11: Holy water font,
Chapel Sogn Benedtg.
Source: Author

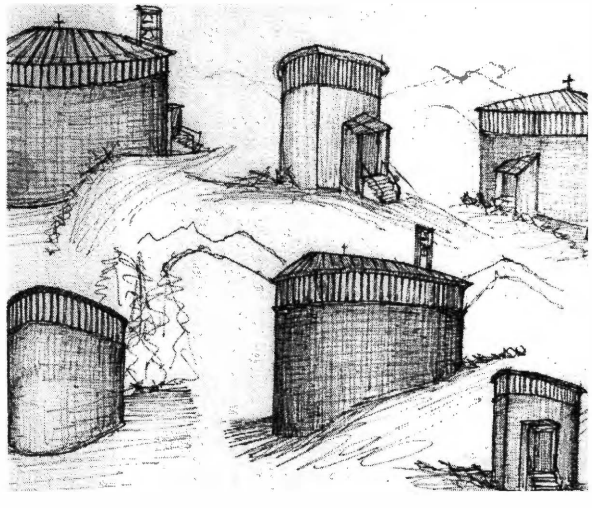


Fig. 12: Field Sketches,
Chapel Sogn Benedtg.
Source: Author

VII. Design

During the design process, three site strategies were deployed, as follows;

1. The sanctuary is to be oriented to the east, following the Catholic church protocol.
2. The church is to be located on the south face of slope, maximizing direct natural light.
3. The project is to have no impact on the existing views from the top of the mountain.

The simple directness of these strategies is reflective of the minimalist attitude maintained regarding the design of the project.

The basis for the design strategy is also quite simple, or minimal- that of a single datum line. The line is placed in accordance with the site strategies. Architecturally, the line becomes a retaining wall. The retaining wall separates the earth from the sky. This retainage involves the darkness of actually being inside the earth, as associated with death, and occupying a space with natural light, as associated with life. Figure 13 shows the retaining wall parti.

The project has had a number of dichotomies which stem from this concept of a retaining wall, including:

Earth / Sky

Life / Death

Light / Dark

Open / Closed

Individual / Collective

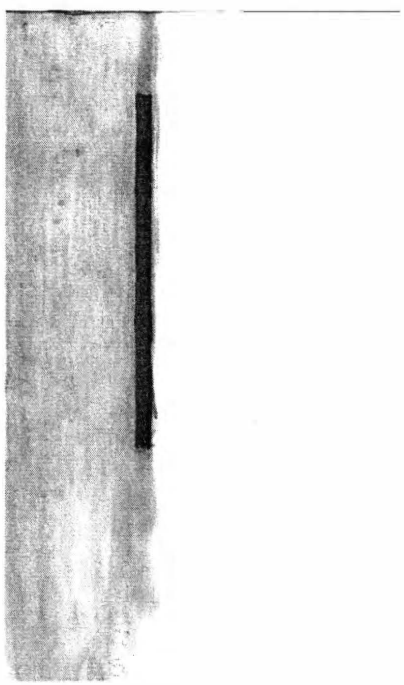


Figure 13: Retaining wall parti. Source: Author.

The retaining wall begins as a datum line and becomes transformed in relation to programmatic requirements. The wall is turned to create an entry threshold for the linear procession path. The wall is pierced with the sepulcher. The wall is punctured with an opening up-slope. The wall is turned again to frame the outdoor chapel. Figure 14 shows the retaining wall diagram, and Figure 17 shows the parti diagram.

The retaining wall frames views down-slope into the landscape. Thus the wall acts as a separator from the secular world. Crossing the threshold of the wall, one enters sacred space.

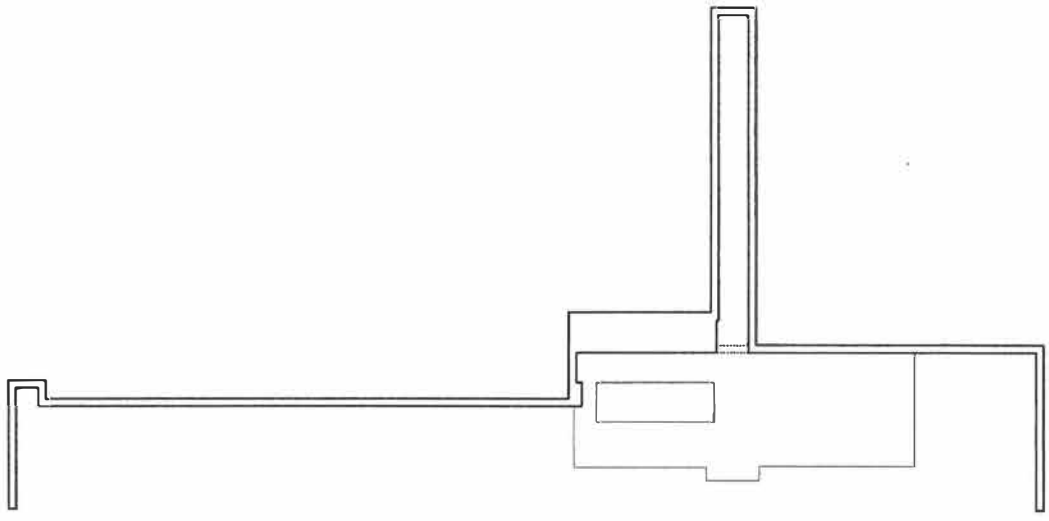


Fig. 14: Retaining wall diagram. Source: Author

The proportioning system is based on the anthropomorphic measurements of the human body, roughly 1:3. This system is found at its smallest in the proportion of the opening in the sepulcher. At its largest, the system defines the overall dimensions of the building. Figure 18 shows the proportions diagram.

The spatial sequence of the building involves two elements- the Mass procession and the funerary procession. Thus the building has two entrances. The long linear element on the west side of the project acts as the beginning of the preparation for the beginning of Mass. Figure 16, the Circulation axes diagram, shows these two perpendicular elements.

The Mass procession enters through a large, hinged wooden door; a clearly articulated threshold. The processant moves through the narthex, and is surrounded by artifacts involved in the Mass ritual, the robes of the priest to the left, and the sacred vessels placed within the wall to the right. Progressing, the person moves

into the spatial joint that defines the baptistery. One has the option of moving into the sepulcher or into the sanctuary.

For funerals, the casket is carried down steps leading to a second entry that slips out of the land towards the mountaintop. This linear element also drops into the earth, allowing only overhead light and no lateral views. The focus is on the funeral task.

Through these two sequences one realizes the symbolic importance of the baptismal font as the signifier of the beginning of life. The heart of the project lies in the perpendicular slot that locates the baptistery. The sepulcher is located nearby, a phenomenal reminder that death is a constant, even in life. Figure 16 shows the baptistery as the overlap of the two circulation axes.

The free-standing concrete sacristy symbolically separates life from death, and also unifies through the rituals associated with the church. The sepulcher area is articulated in concrete for its mass, and for its creation of darkness. The Mass sequence leads into the lightness of the sanctuary, with views out into the landscape, a reminder that we are alive and that we are a part of nature as well. Figures 28 – 33 show the building's relationship with the landscape. Beyond the sanctuary is the outdoor chapel, an idealized cube that is easily viewed from the interior of the building, but must be accessed by moving around the building. Figure 33 shows a perspective looking into the sanctuary from the chapel. Figure 15 shows a study of a concrete façade placed in the landscape.

Minimalism as a design strategy is articulated through demonstrated design moves, a clear spatial sequence, and a stripped down, unornamented use of material. Concrete walls that are bearing loads are left in an undecorated state.

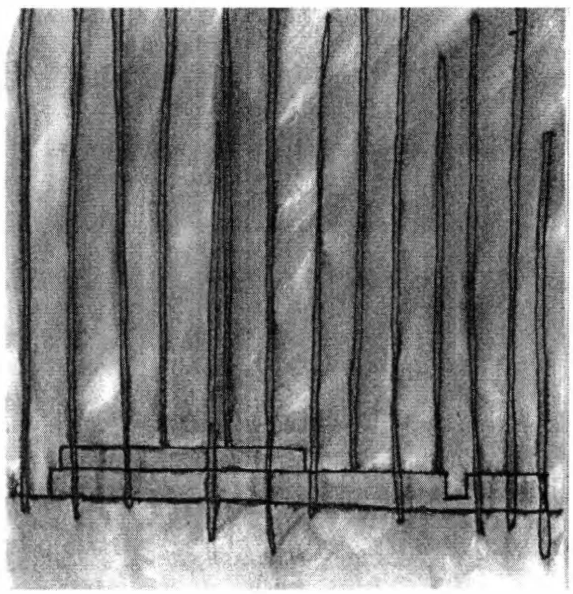


Fig.15: Façade study. Source: Author.

The indigenous granite flooring material is left with a rough-hewn finish. These materials add to the tactile quality of the building, allowing for one to touch rather than to speak, relating to the inherent quiet, solemn state of the site, seeking an appreciation for the inherent natural beauty surrounding the church.

The south façade of the sanctuary is a double-acting screen. The inner screen is glazed and the outer screen consists of horizontally oriented oak louvers. These two layers may act together or separately. The glazed layer may be raised for ventilation. The oak slats may be lowered to during Mass to act as a buffer to the landscape and to allow more focus towards the front of the church. Both screens may be raised to allow for complete interaction with the landscape.

Oak is the only type of wood used in the project; it appears in the form the sanctuary façade louvers, the altar, and the pews. The oak tree is indigenous to the western North Carolina landscape and becomes more beautiful as it ages.

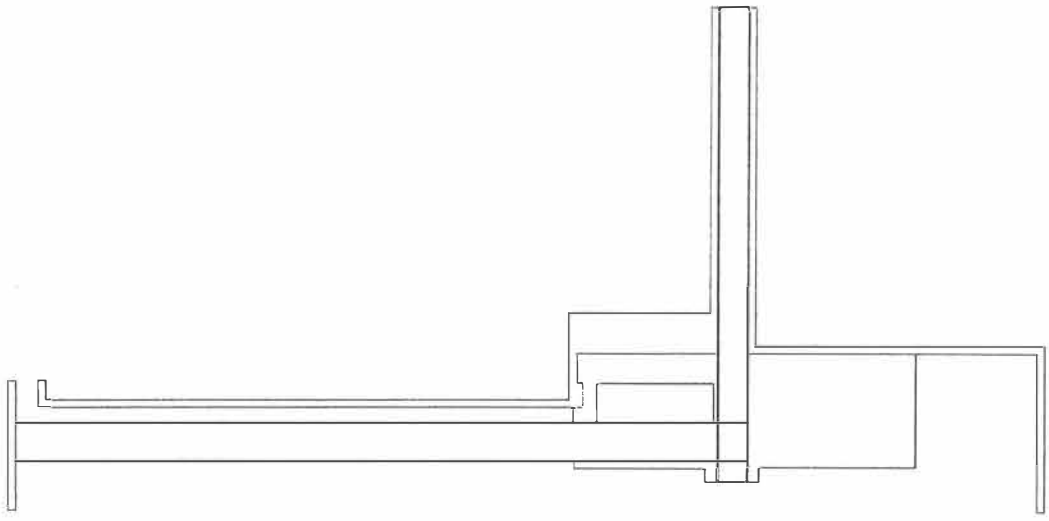


Fig. 16: Circulation axes diagram. Source: Author
The Mass procession runs horizontally, and the funeral procession runs vertically.

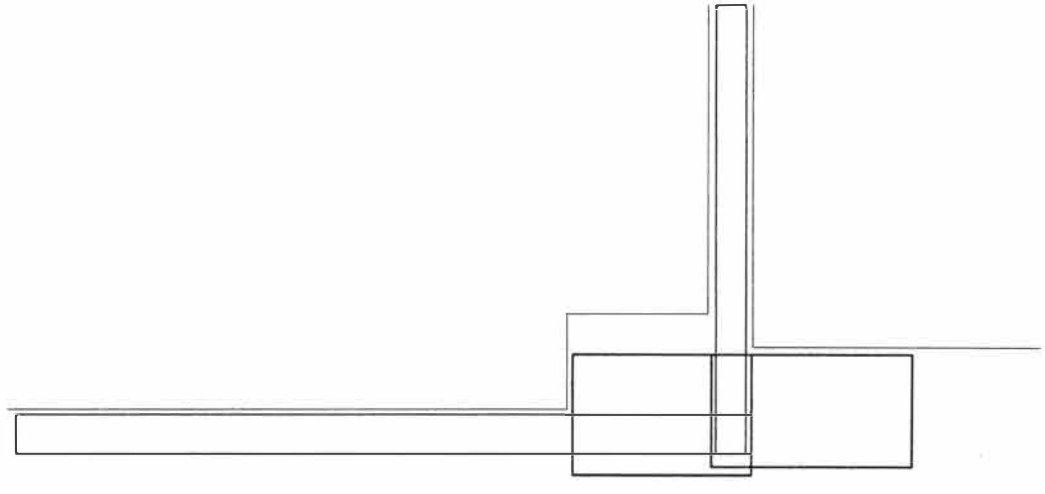


Fig. 17: Parti diagram. Source: Author

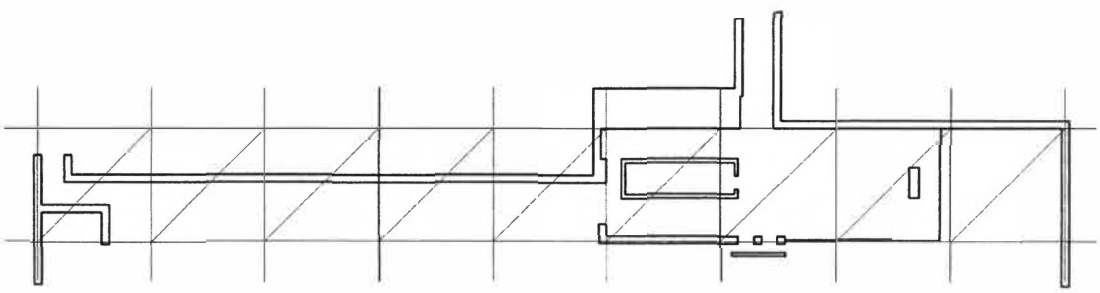


Fig. 18: Proportions diagram. Source: Author

VIII. Drawings and Models

The final design drawings and models are represented in Figures 19 – 38.

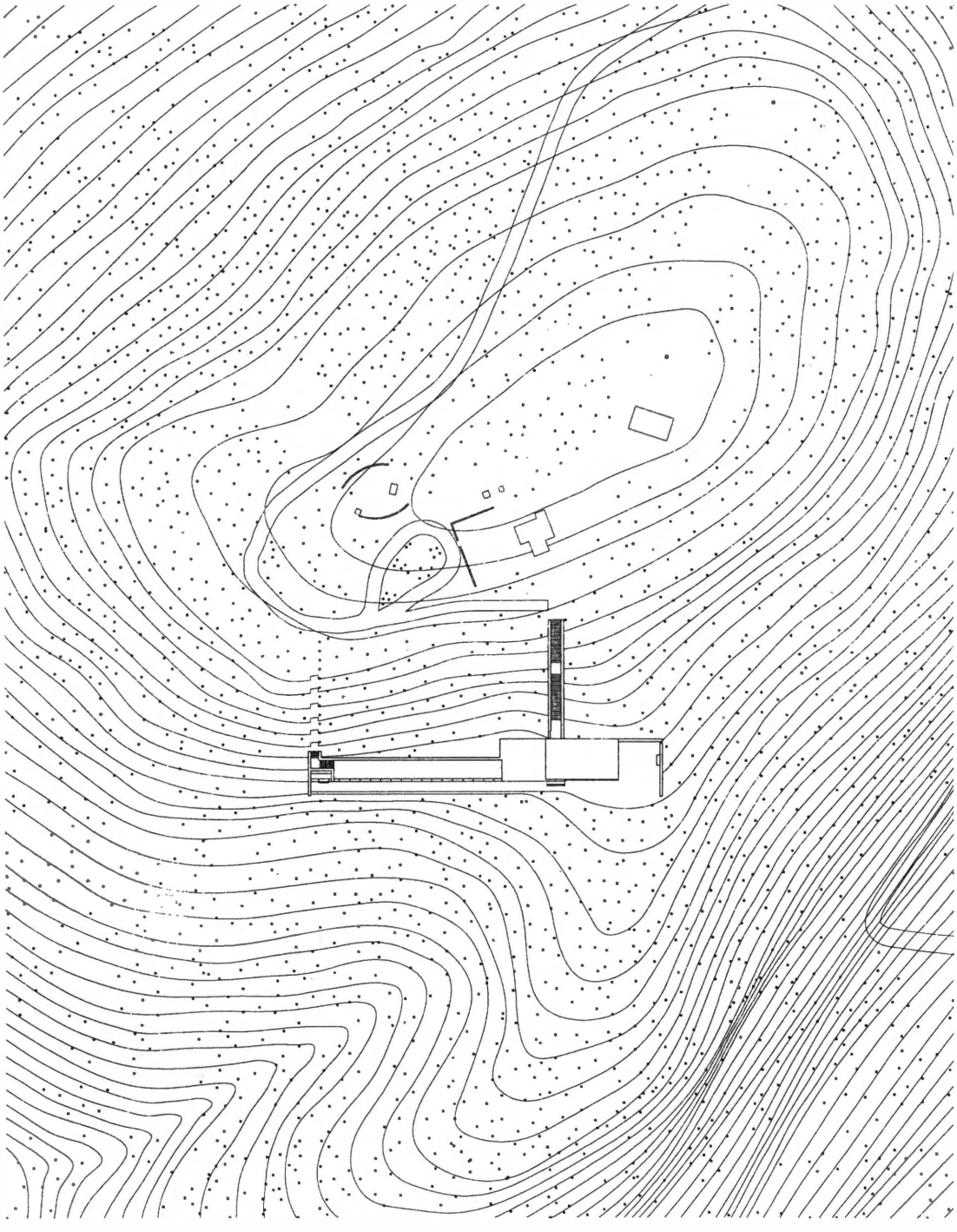


Fig. 19: Site Plan. North is oriented to the top of the page.

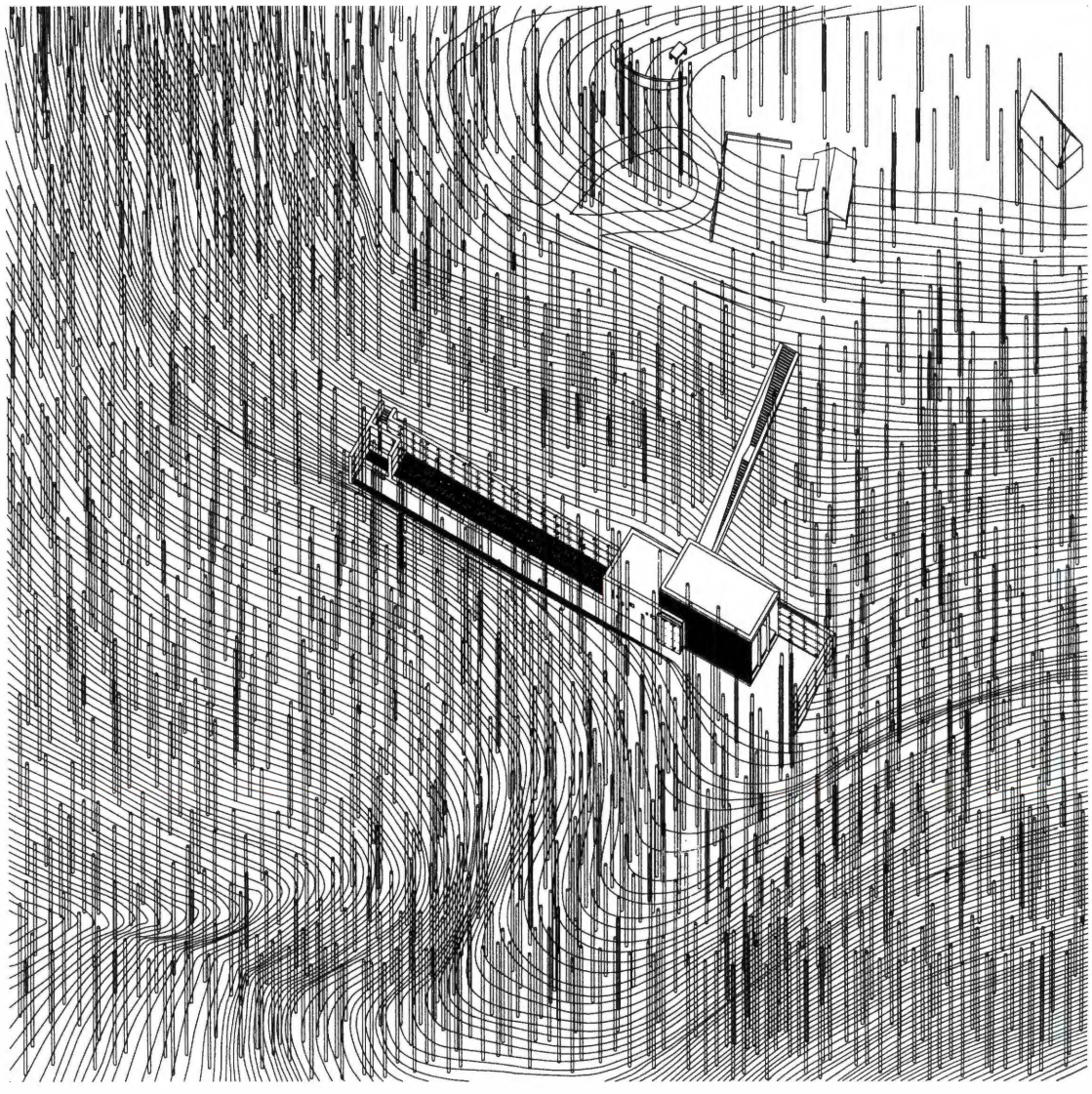


Fig. 20: Site Axonometric

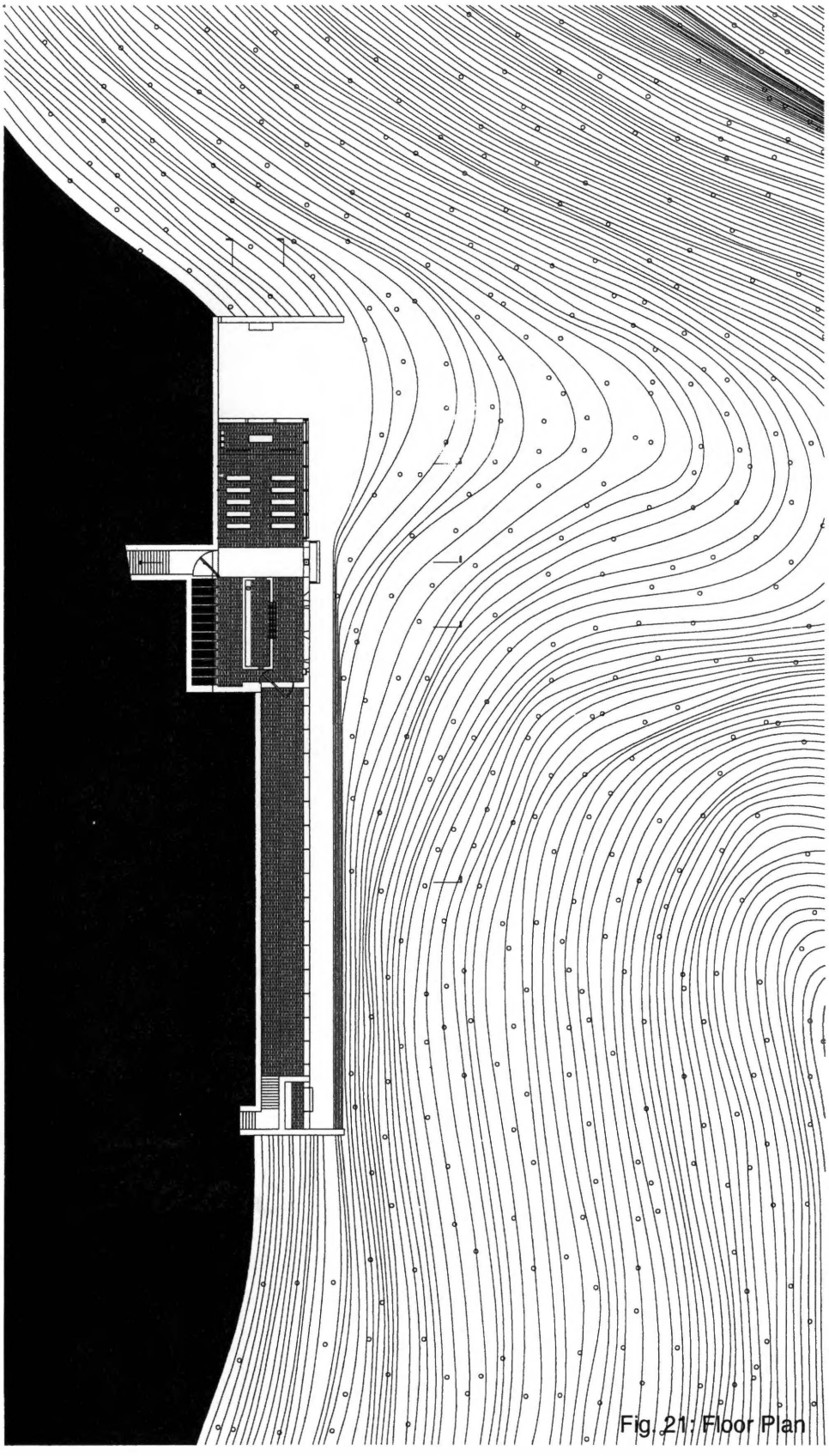


Fig. 21: Floor Plan

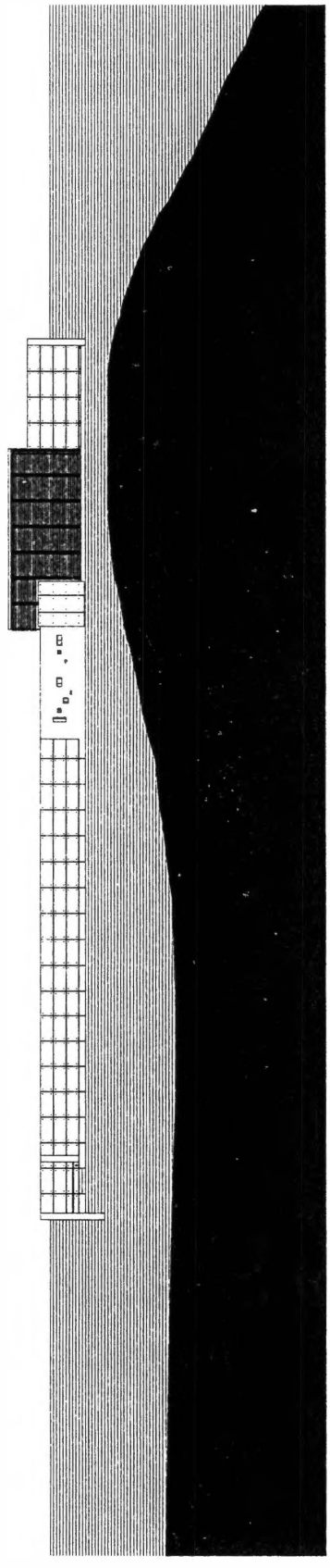


Fig. 22: Front Elevation

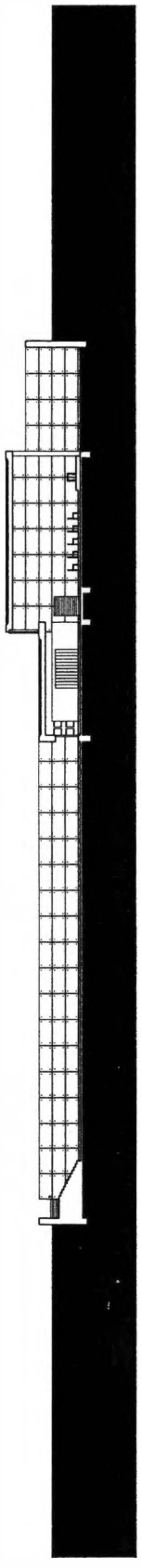


Fig. 23: Longitudinal Section

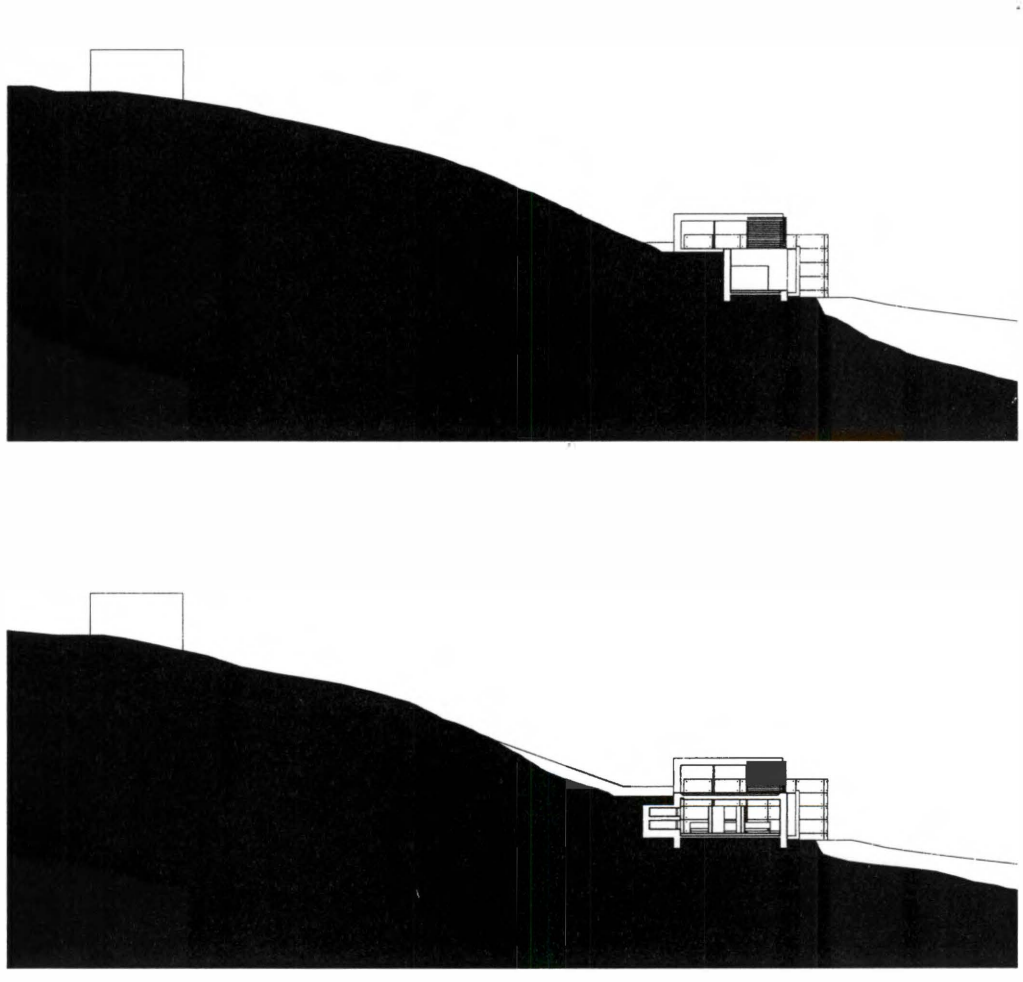


Fig. 24: Cross Sections C and D

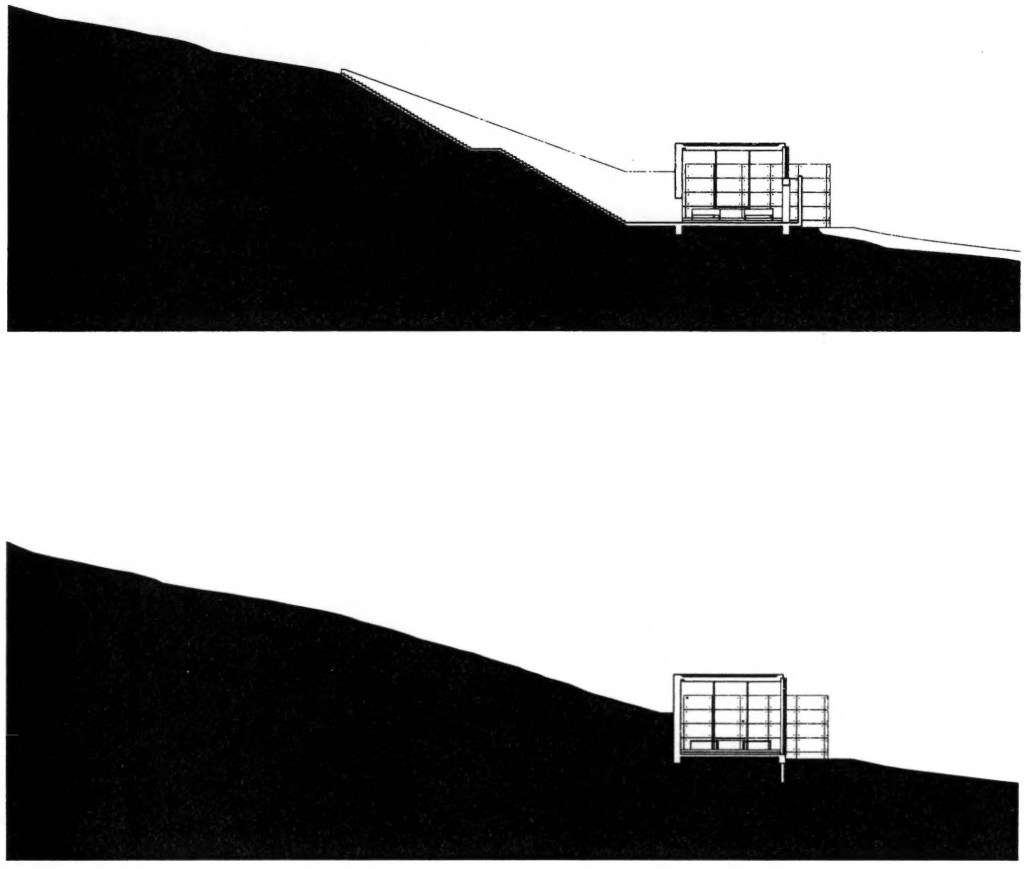


Fig. 25: Cross Sections E and F

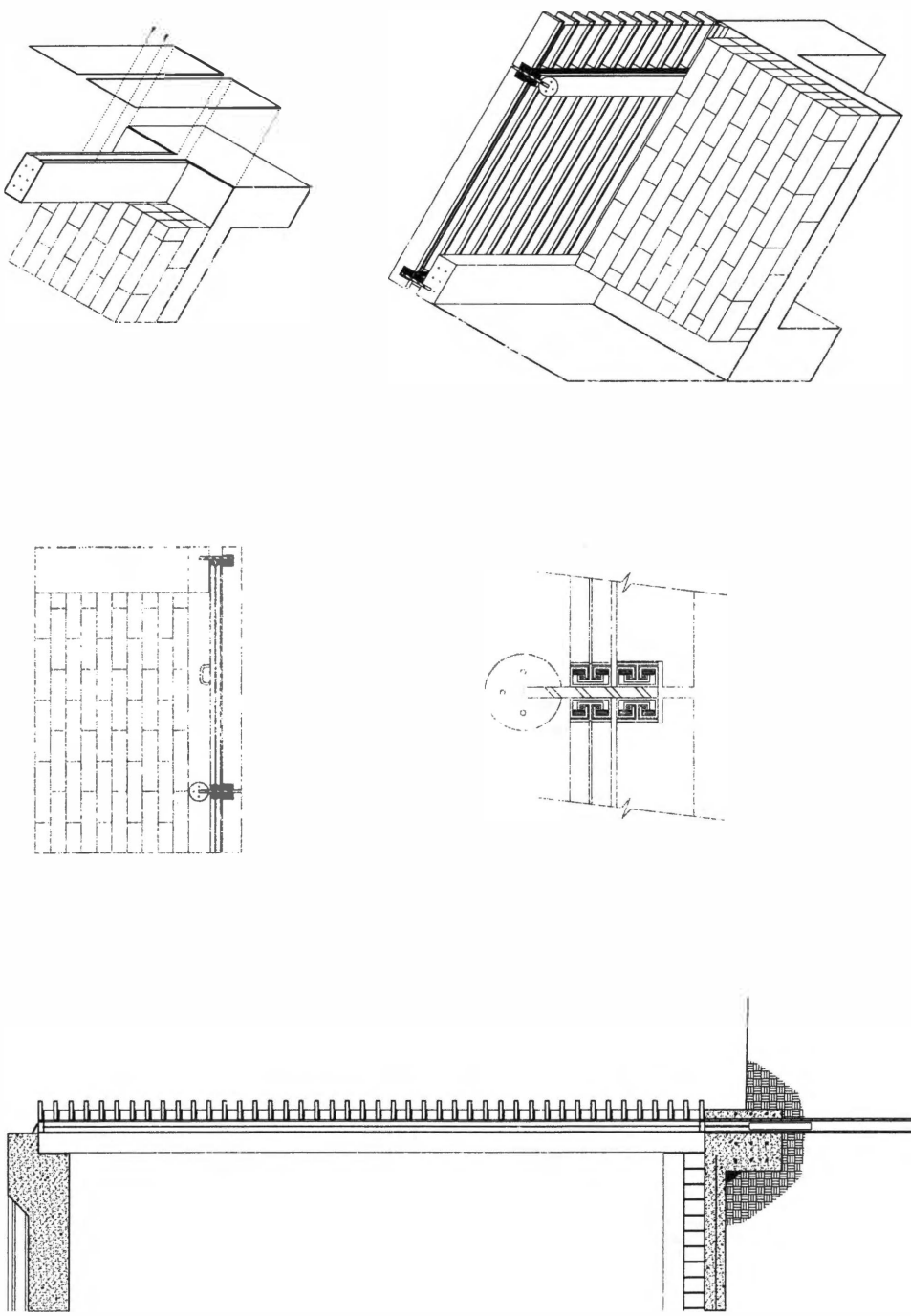


Fig. 26: Wall Details. Various elements of the sanctuary façade are shown.

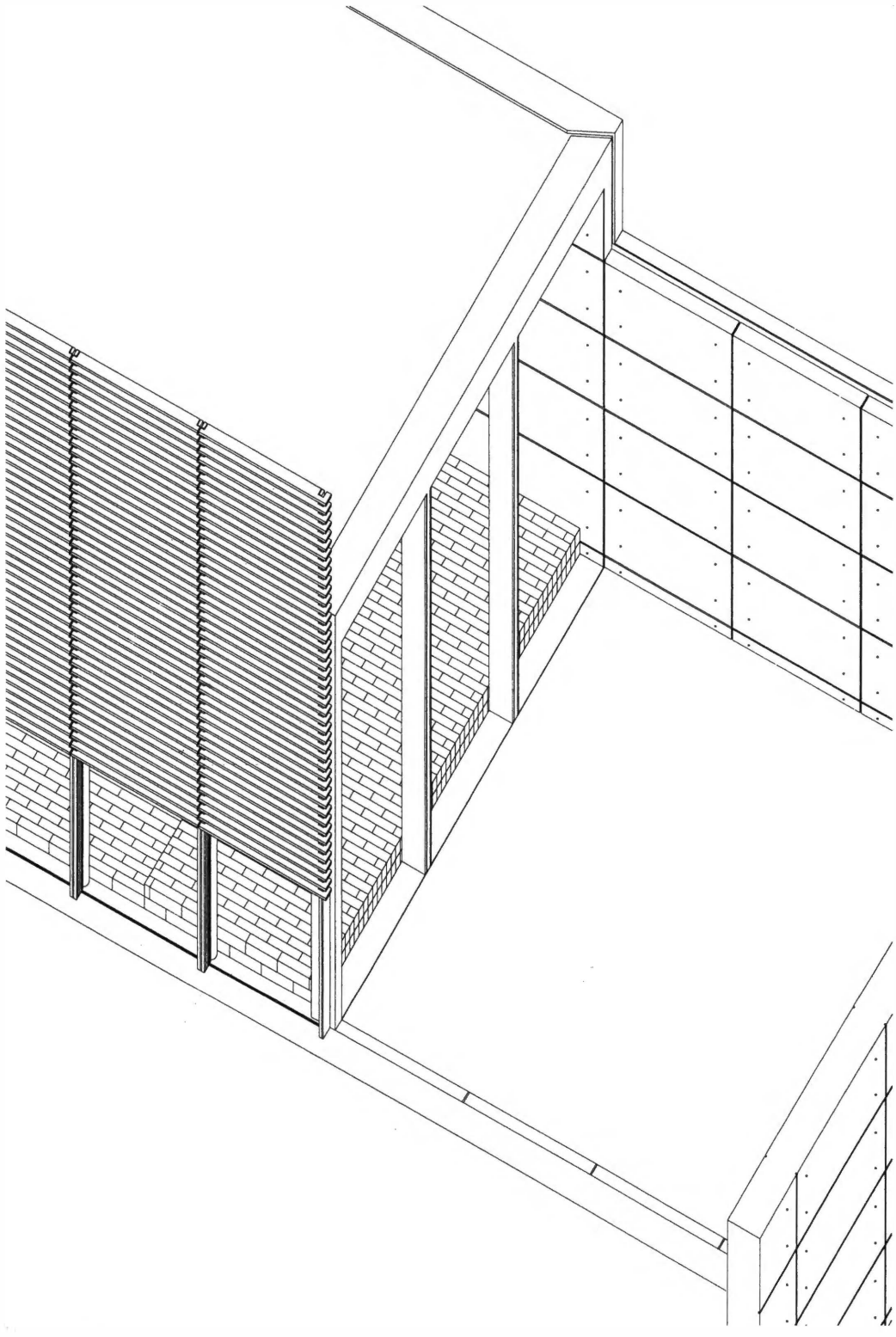


Fig. 27: Detail Axonometric of the sanctuary, showing louvers in the raised position.

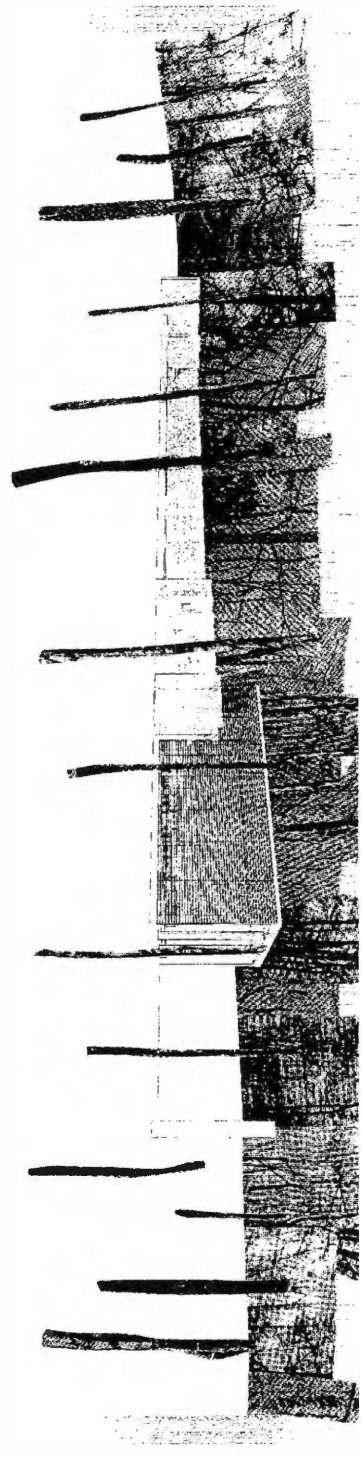


Fig. 28: Perspective 1. View from the south slope.

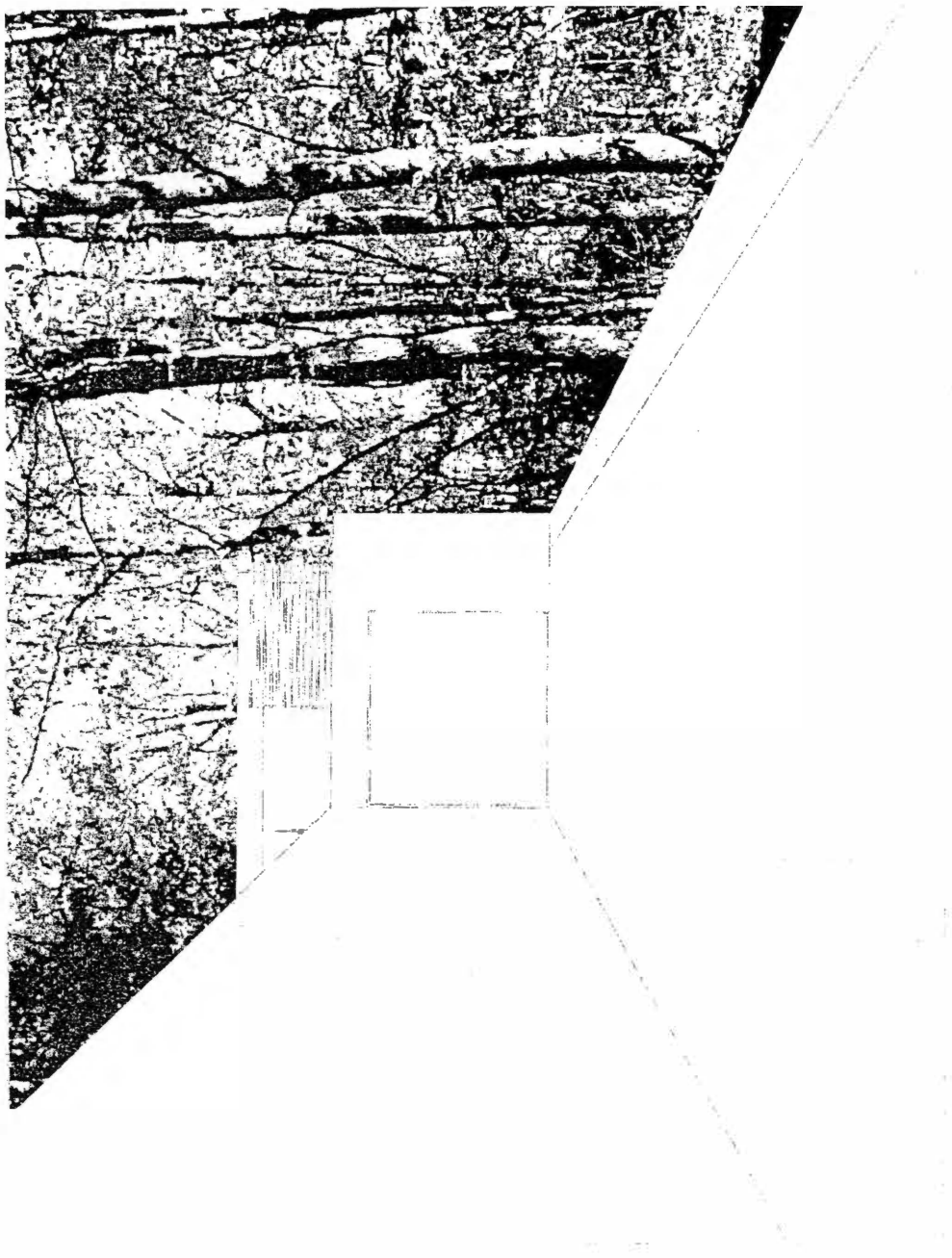


Fig. 29: Perspective 2. View from the Mass processional towards the door.

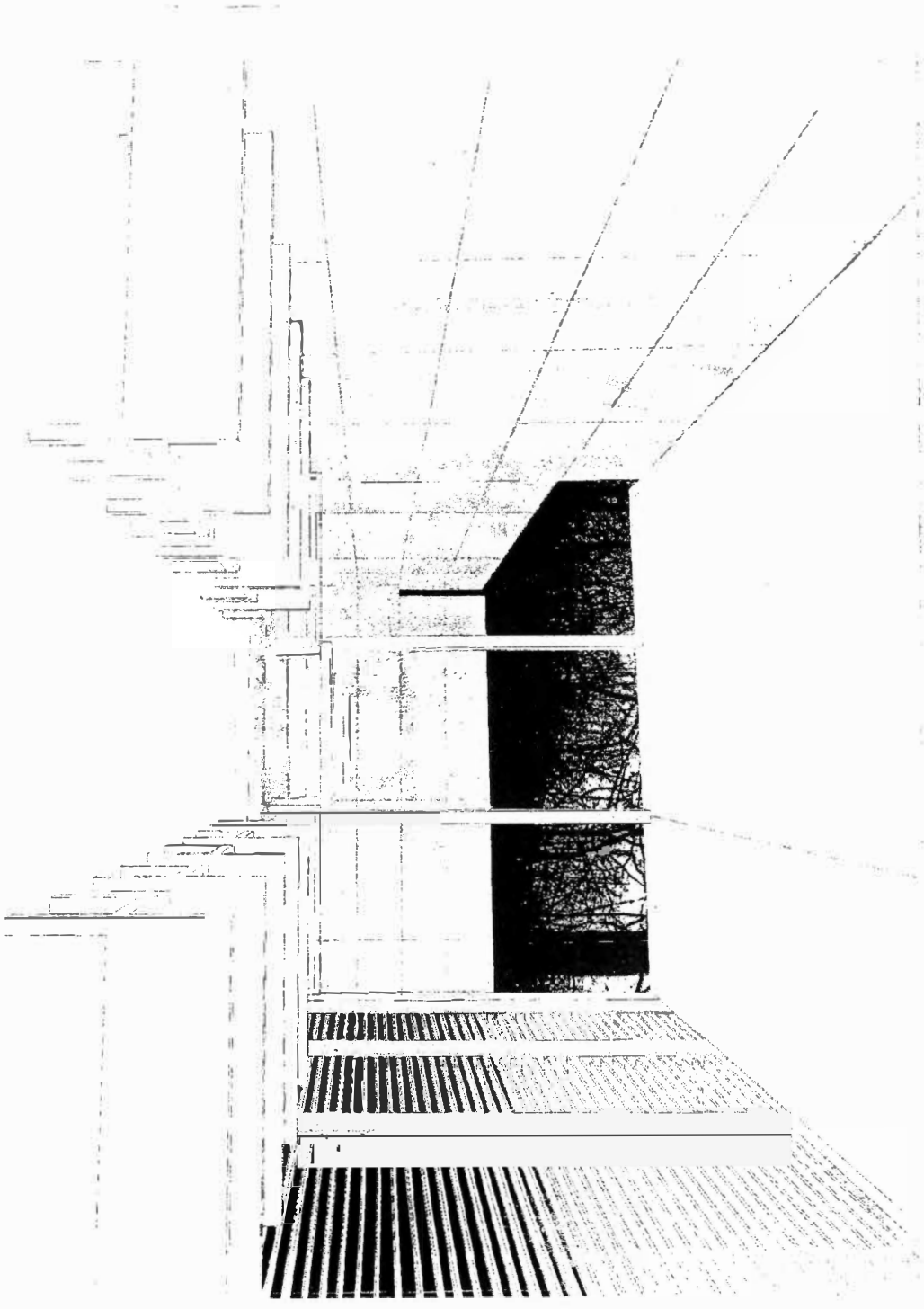


Fig. 30: Perspective 3. View from the rear of the sanctuary.

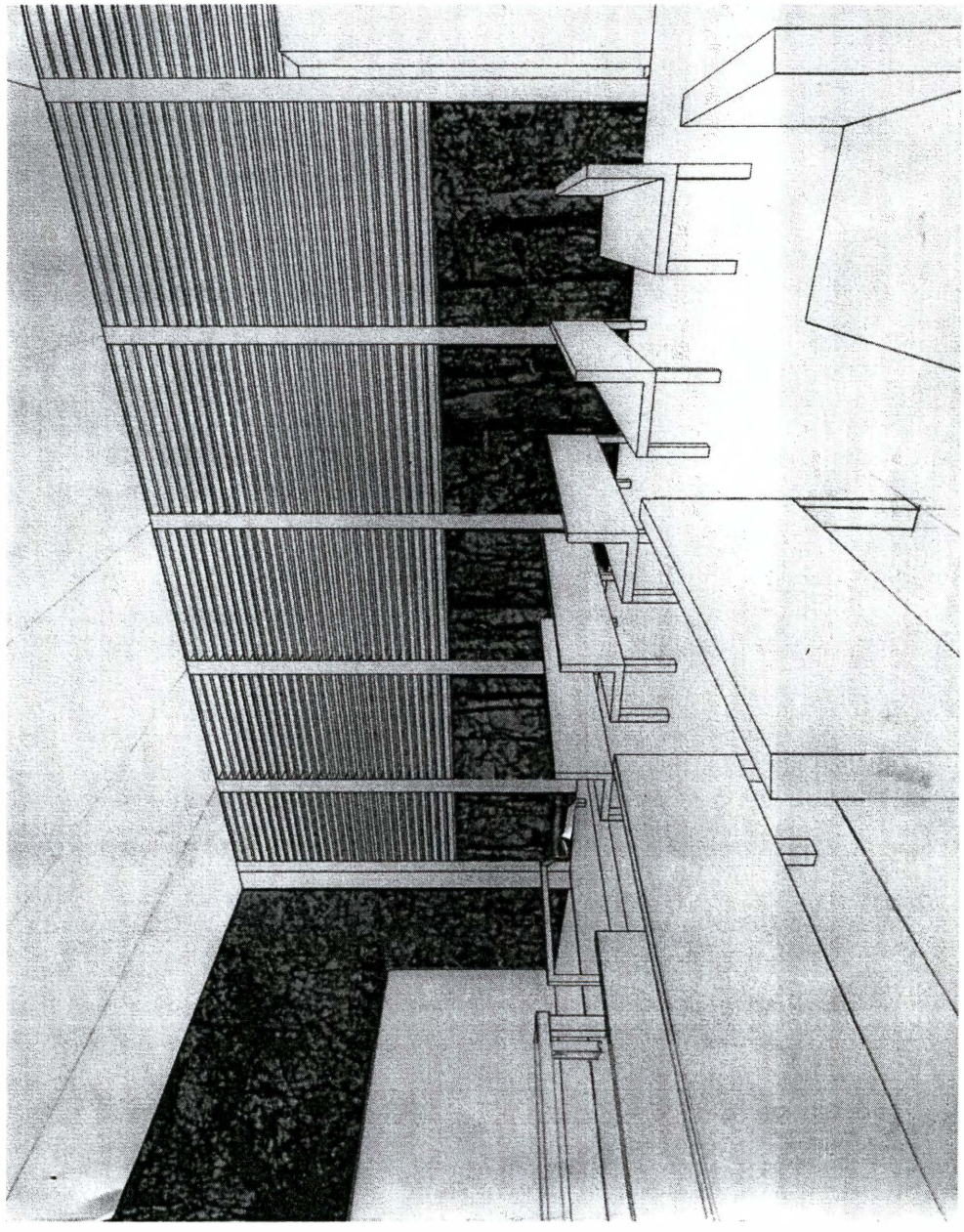


Fig. 31: Perspective 4. View looking into the landscape with the louvers raised.

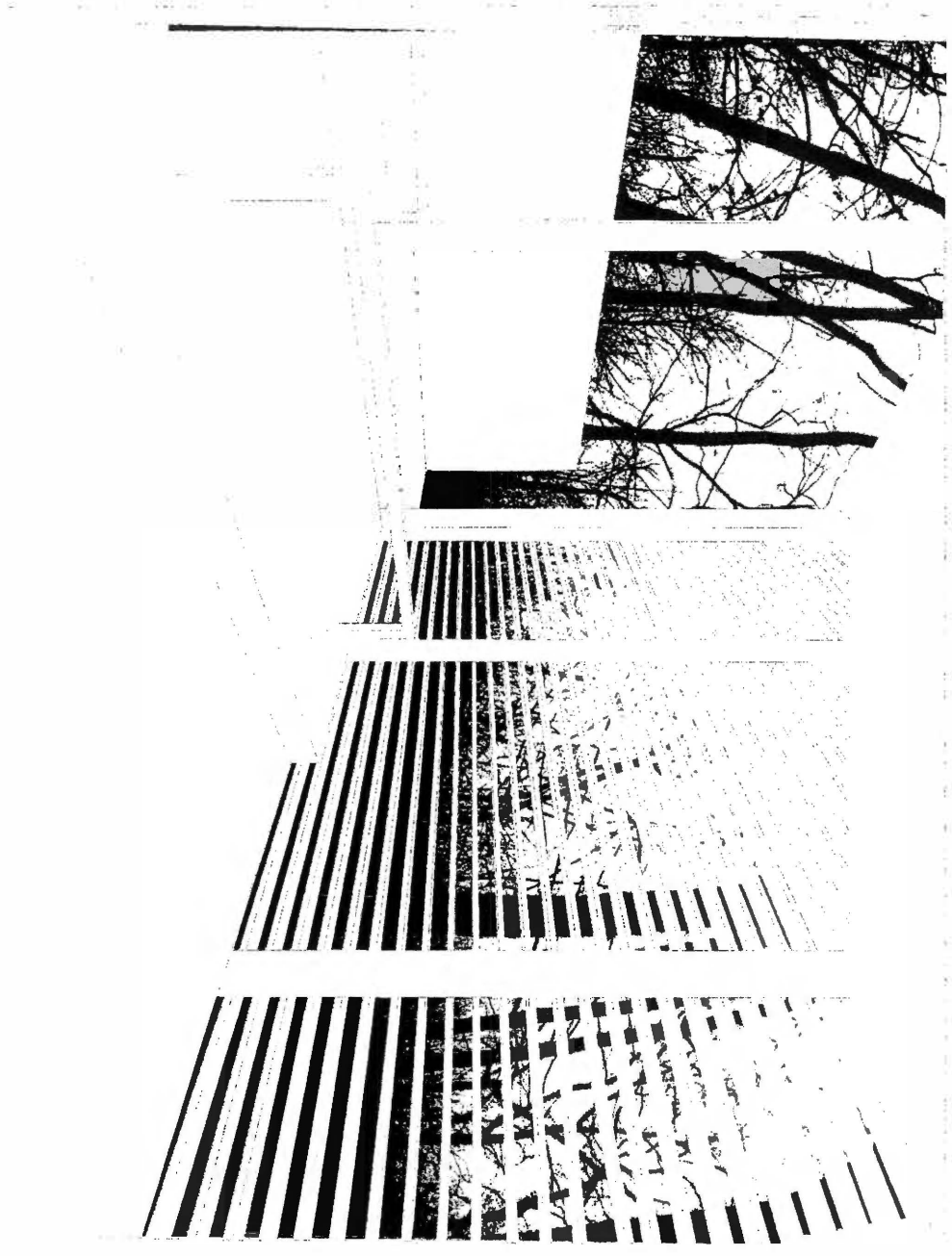


Fig. 32: Perspective 5. View looking into the landscape with the louvers closed.

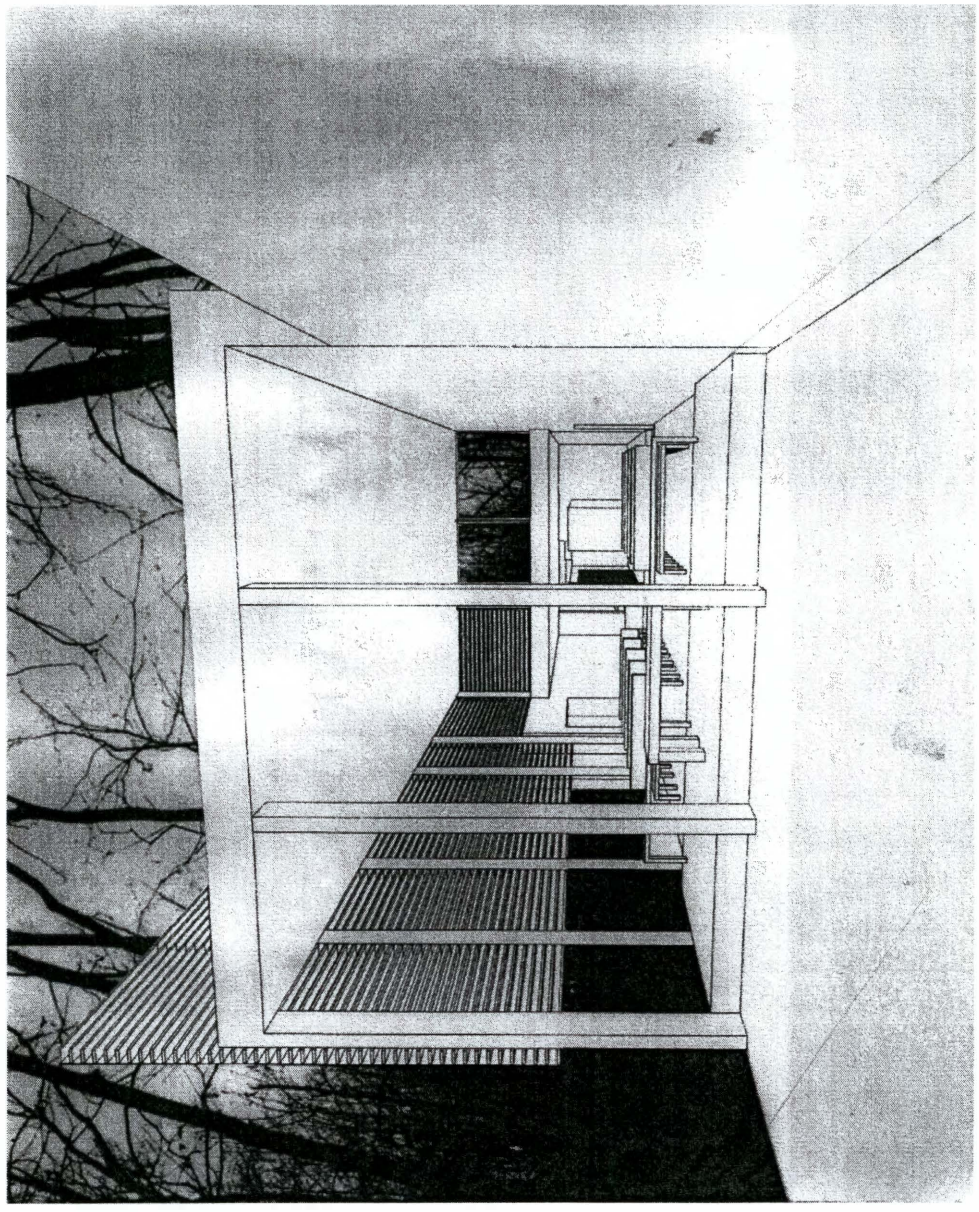


Fig. 33: Perspective 6. View from the outdoor chapel looking into the sanctuary.

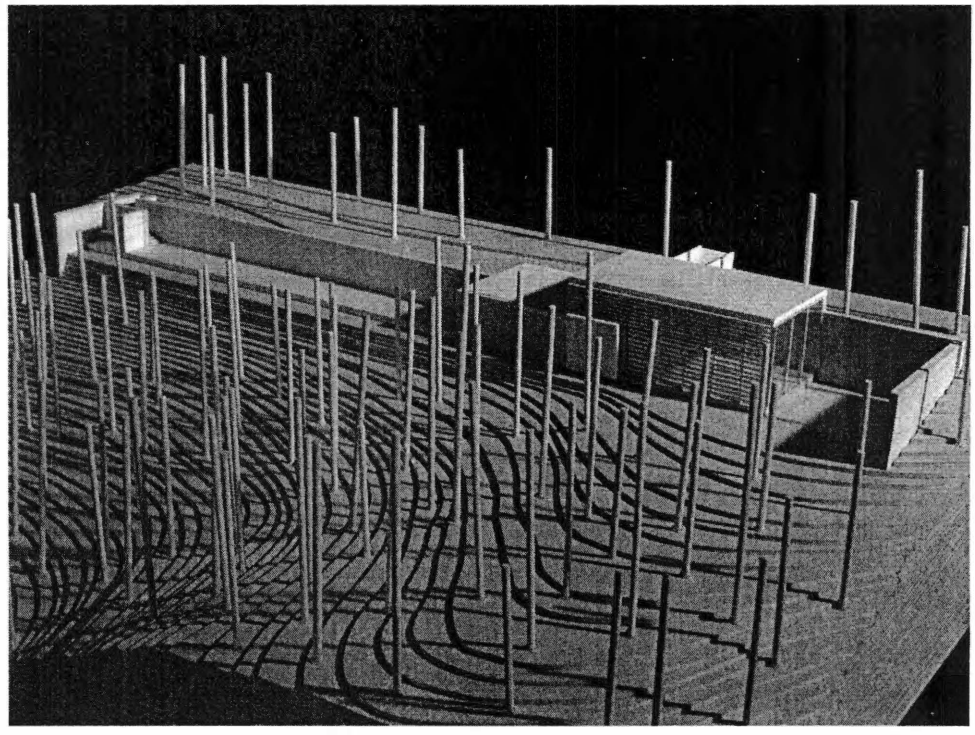


Fig. 34: View of model from southeast. Scale of model: 1/8" = 1'-0"

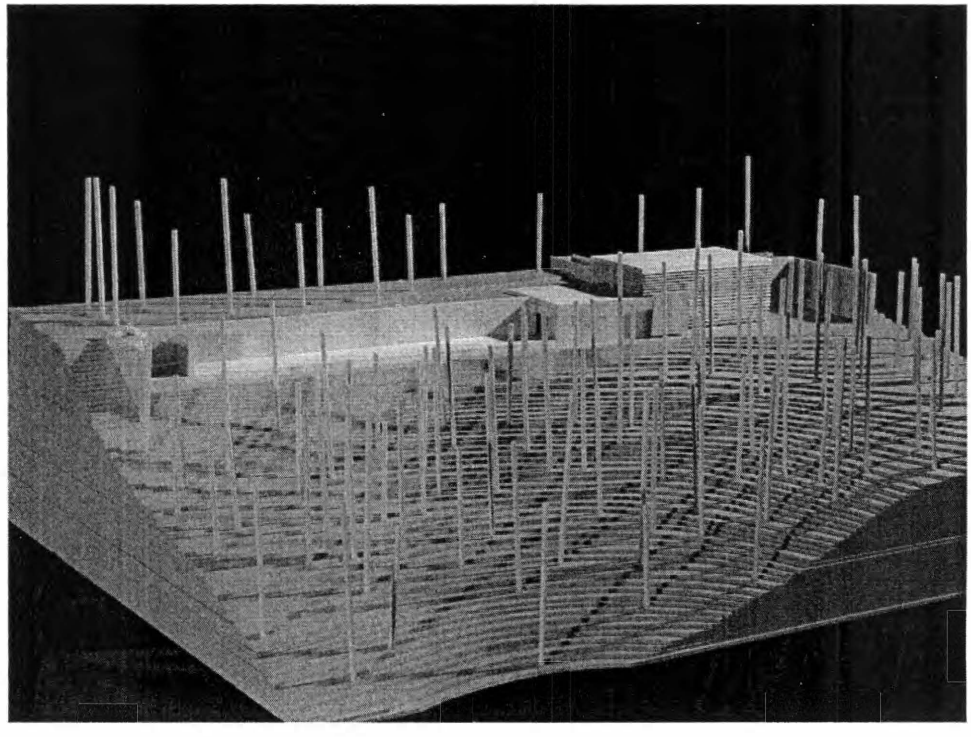


Fig. 35: View of model from southwest. Scale of model: 1/8" = 1'-0"

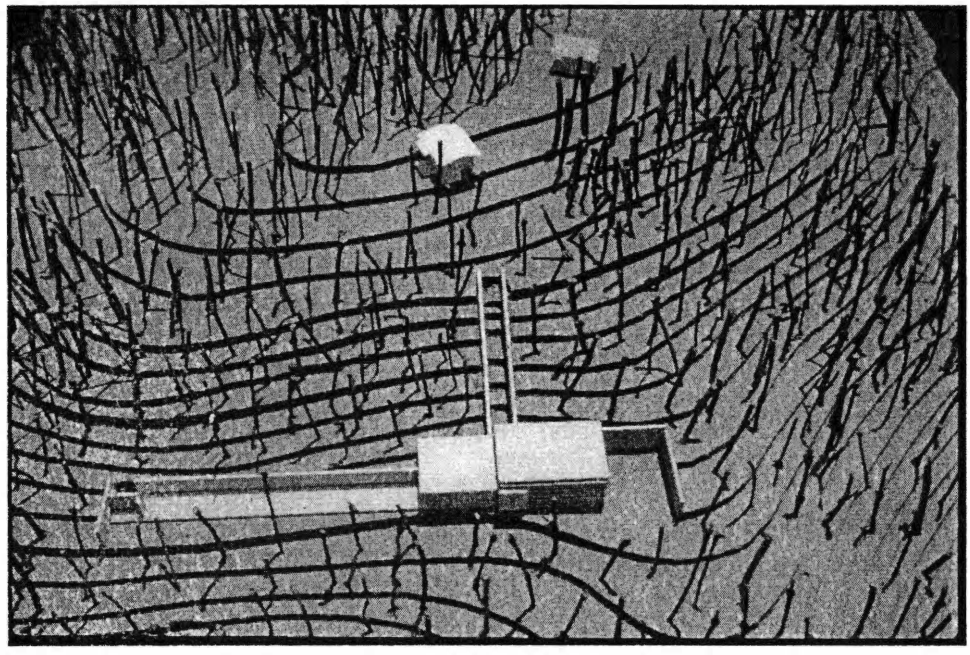


Fig. 36: View of site model from south. Scale of model: 1" = 30'

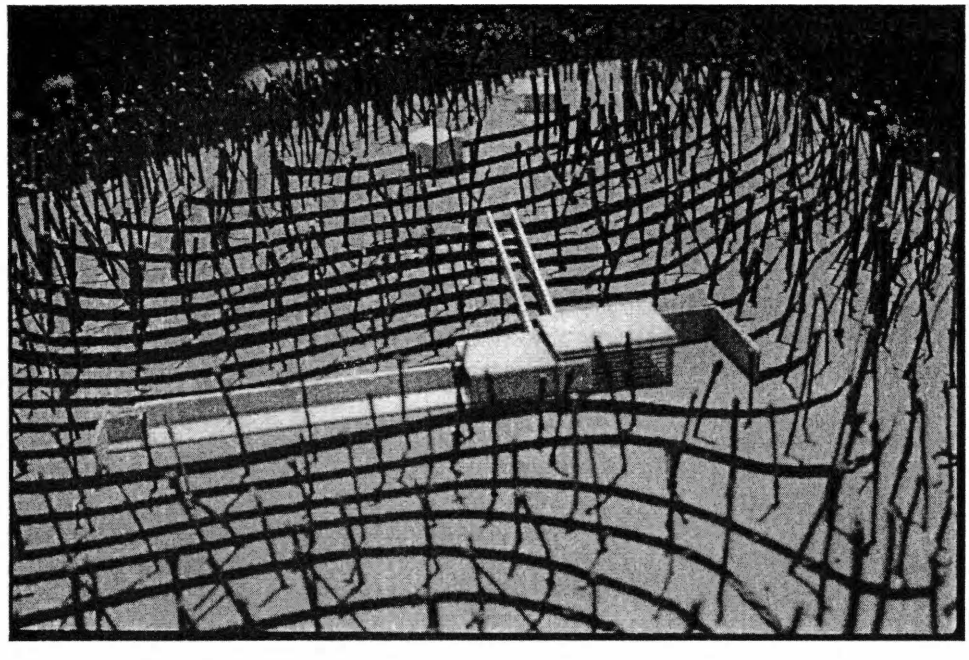


Fig. 37: View of site model from southwest. Scale of model: 1" = 30'

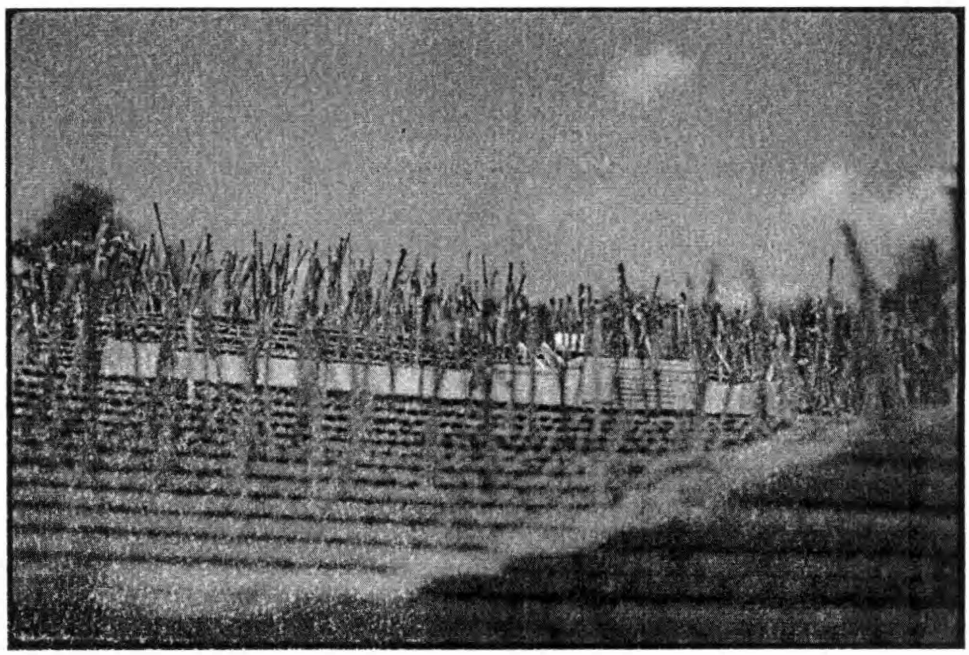


Fig. 38: Perspective view of site model. Scale of model: 1" = 30'

IX. Conclusion

Through the design of this project, I have realized that the making of the minimal the maximizing of the consideration of the project. Through the relevant independence of the two-semester thesis coursework, I continue to discover for myself that which is required of the architect.

The minimalist language deployed at the beginning of the document culminates in the means of the making of space, construction detailing, and manipulation of natural light. While minimalism may involve fewer elements, the importance of these elements raises exponentially as their amount is reduced. Like chess pieces, the location of and orientation to the other pieces is vitally important.

I realize that I seek to create an architecture that speaks visually, through a clearly constructed means. This thesis journey will (hopefully) be the starting point for the remainder of my architectural career.

X. Glossary

ELEMENTS OF A TYPICAL CHURCH

Apse: a projecting usually semi-circular and vaulted part of a church.

Altar: A structure, typically a table, before which the divine offices are recited and upon which the Eucharist is celebrated in Christian churches.

Altar cloth: the cover for an altar in a Christian church, usually richly embroidered

Altar frontal: a drapery covering the front of an altar.

Ambry: a niche near the altar of a church for keeping sacred vessels and vestments.

Altar rail: the railing in front of the altar or communion table.

Altar screen: wall or partition built behind an altar to protect it from approach in the rear.

Ambo: One of the two raised stands in early Christian churches from which parts of the service were chanted or read.

Ambulatory: Of, relating to, or adapted for walking; a covered place for walking, as in a cloister.

Chancel: the part of the church including the altar and choir.

Confessional: A small enclosed stall in which a priest hears confessions.

Credence: a small table or shelf for holding the bread, wine, and vessels of the Eucharist when they are not in use at the altar.

Crucifix: A cross viewed as a symbol of Jesus' crucifixion.

Crypt: An underground vault or chamber, especially one beneath a church that is used as a burial place.

Font: A basin for holding baptismal water in a church; a receptacle for holy water.

Missal: a book containing all the prayers and responses necessary for celebrating the Mass throughout the year.

Narthex: A portico or lobby of an early Christian or Byzantine church or basilica, originally separated from the nave by a railing or screen; an entrance hall leading to the nave of a church.

Nave: the central part of a church, extending from the narthex to the chancel and flanked by aisles.

Prie-dieu: kneeling bench used for prayers.

Sacrarium (piscina): a stone basin with drain for carrying away water used in ceremonial ablutions; a niche near the altar in a church, containing a small basin for rinsing altar vessels.

Sacristy: A room in a church housing the sacred vessels and vestments.

Sanctuary: The holiest part of a sacred place, as the part of a Christian church around the altar.

Vestry: a room used for robing and as storage for vestments.

VESTMENTS

Alb: A long white linen robe with tapered sleeves worn by a priest at Mass.

Amice: A liturgical vestment consisting of an oblong piece of white linen worn around the neck and shoulders and partly under the alb.

Cassock: an ankle-length garment with close-fitting waist and sleeves, worn by the clergy and others who assist in church services.

Chasuble: A long sleeveless vestment worn over the alb by a priest during services.

Cincture: A belt or sash, especially one worn with an ecclesiastical vestment or the habit of a monk or nun.

Cope: a long ecclesiastical vestment worn over an alb or a surplice.

Corporal: A white linen cloth on which the consecrated elements are placed during the celebration of the Eucharist.

Humeral veil: a long, narrow veil or scarf of the same material as the vestments, worn round the shoulders by the officiating priest or his attendant at Mass, and used to protect the sacred vessels from contact with the hands.

Maniple: An ornamental silk band hung as an ecclesiastical vestment on the left arm near the wrist.

Stole: A long scarf, usually of embroidered silk or linen, worn over the left shoulder by deacons and over both shoulders by priests and bishops while officiating.

Surplice: a loose-fitting, white ecclesiastical gown with wide sleeves, worn over a cassock.

ALTAR VESSELS

Ablution cup: used during Mass for the ceremonial washing of the hands.

Chalice: a cup for the consecrated wine of the Eucharist.

Ciborium: A covered receptacle for holding the consecrated wafers of the Eucharist.

Cruet: a small glass bottle used for holding water and wine used in the consecration of the Eucharist.

Ostensorium (*monstrance*): is a glass-framed shrine in which the Blessed Sacrament is publicly exposed.

Paten: an altar vessel on which the consecrated bread is offered during Eucharist.

Pyx: A container in which wafers for the Eucharist are kept.

RITES

Ablution: a washing or cleansing of the body, especially as part of a religious rite; also the liquid so used.

Eucharist: A sacrament and the central act of worship in many Christian churches, which was instituted at the Last Supper and in which bread and wine are consecrated and consumed in remembrance of Jesus' death; Communion.

Lavabo: the ceremonial washing of hands and recitation from the Psalms by the celebrant before the Eucharist in the Roman Catholic Church.

Liturgy: A prescribed form or set of forms for public religious worship. In Christianity, the sacrament of the Eucharist.

Rite: The prescribed or customary form for conducting a religious or other solemn ceremony: *the rite of baptism.*

Caputo, Mario V. *The Parish Church*. Belmont, Massachusetts: Mario V. Caputo, 1967.

Cerver, Francisco Asensio. *The Architecture of Minimalism*. New York: Hearst Books International, 1997.

Cuito, Aurora. *Minimalist Spaces*. New York, Harper Collins Publishers, 2001.

Los, Sergio. *Carlo Scarpa: An Architectural Guide*. Verona, Arsenale Editrice, 1995.

Pawson, John. *Minimum*. London: Phaidon Press International, 1996.

Savi, Vittorio E. and Josep M. Montaner. *Less Is More: Minimalism in Architecture and the Other Arts*. Barcelona, Collegi d'Arquitectes de Catalunya, 1996.

Sudjic, Deyan. *John Pawson Works*. London, Phaidon Press International, 2000.

Tavernor, Robert. *On Alberti and the Art of Building*. New Haven: Yale University Press, 1998.

Von Moos, Stanislaus. *Minimal Tradition. Max Bill and "Simple" Architecture 1942 – 1996*. Zurich, Swiss Federal Office of Culture, 1996.

Zumthor, Peter. *Peter Zumthor Works*. Baden: Lars Muller Publishers, 1998.

Vita

David Ogden Hefley was born on March 8, 1977, and grew up in Natchez, Mississippi. He graduated from Trinity Episcopal Day School in May 1995, a decorated athlete in cross-country and track and field. He attended the University of Southern Mississippi, graduating in May 1999, with a Bachelor of Science in Architectural Engineering Technology. Upon graduating from the University of Tennessee with his Master of Architecture, he plans to complete a marathon in less than two hours, fifty minutes.

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